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(54) BODY FAT COMBUSTION PROMOTER

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain the subject safe promoter having high lowering effects on body fats by including an oil and fat containing a specific amount of a diglyceride and/or a monoglyceride having a specified value or above of ω 3-based unsaturated acyl group content in the constituent acyl groups as an active ingredient.

SOLUTION: This promoter is obtained by including an oil and fat containing ≥ 5 wt.% (preferably ≥ 5 wt.%, more preferably ≥ 40 wt.%, far more preferably ≥ 50 wt.%) of a diglyceride and/or a monoglyceride having ≥ 5 wt.% (preferably 20-70 wt.%, more preferably 25-65 wt.%) content of ω 3-based unsaturated acyl groups (e.g. eicosapentaenoyl group or α -lignoleyl group) in the constituent acyl groups as an active ingredient. For example, the above oil and fat is obtained by fractionating a triglyceride, a diglyceride, a monoglyceride, or the like, according to a transesterification, or the like, of an oil and fat containing the ω 3-based unsaturated acyl groups, or the like, as the constituent acyl groups such as a fish oil or a rapeseed oil with glycerol and then suitably mixing the resultant triglyceride, diglyceride, monoglyceride, or the like.

CLAIMS

[Claim(s)]

[Claim 1] A body fat combustion improver to which omega3 system unsaturation acyl group content in a composition acyl group makes an active principle fats and oils which contain diglyceride and/or monoglyceride which are 15 % of the weight or more 5% of the weight or more.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention is excellent in the fall effect of body fat, or visceral fat and a liver fat, and relates to a safe body fat combustion improver.

[0002]

[Description of the Prior Art] In recent years, research progresses about the relation between distribution of body fat and various adult diseases, and it is shown that especially accumulation of visceral fat, such as an intraperitoneal fat and a liver fat, has not only obesity but diabetes mellitus, hyperlipidemia, liver disease, hypertension, etc., and high correlation. Therefore, it is important to reduce body fat, when preventing and treating these diseases.

[0003] In order to reduce the body fat concerned, movement and a meal are important, but difficulty is followed on management in many cases. On the other hand, although the trial for which it is going to reduce body fat with pharmacotherapy also occurs, the safety of the drug to be used poses a problem.

[0004]

[Problem(s) to be Solved by the Invention] The purpose of this invention is to provide the safe and high body fat combustion improver of the body fat fall effect.

[0005]

[Means for Solving the Problem] When this invention persons inquired paying attention to a content of diglyceride in fats and oils, and monoglyceride, and omega3 system unsaturation acyl group content in those composition acyl groups, they found out that there was a body fat combustion promotion operation excellent in specific amount **** fats and oils about these.

[0006] That is, this invention provides a body fat combustion improver which makes an active principle fats and oils which contain diglyceride and/or monoglyceride whose omega3 system unsaturation acyl group content in constituent fatty acids is 15 % of the weight or more 5% of the weight or more.

[0007]

[Embodiment of the Invention] The fats and oils used for the body fat combustion improver of this invention contain diglyceride and/or monoglyceride more than 5 % of the weight (% only shows hereafter), and are what is contained especially not less than 50% preferably not less than 40% still more preferably not less than 15% preferably. Body fat fall effect with diglyceride and/or a monoglyceride content sufficient at less than 5% cannot be acquired.

[0008] From a point of the body fat fall effect, not less than 15% of omega3 system unsaturation acyl group content in the composition acyl group of the diglyceride and/or monoglyceride which are contained in the fats and oils used for this invention is required, and is not less than 25% especially preferably not less than 20% preferably. here -- the above-mentioned omega3 system unsaturation acyl group -- the position of a carbon-carbon unsaturated bond -- about omega -- from -- specifying -- about omega -- from -- it is an acyl group to which the first unsaturated bond is located in the 3rd carbon atom, and what has a

carbon-carbon unsaturated bond two or more is said. What has a carbon-carbon unsaturated bond 3-6 is preferred. As a with a carbon numbers of 20 or more omega3 system unsaturation acyl group, an eicosapentaenoyl group, a docosapenta enoyl group, and a docosahexaenoyl group are preferred. As a with a carbon number of less than 20 omega3 system unsaturation acyl group, alpha-linoleyl group (all cis-9,12,15-octadeca TORIE noil group) is preferred. Although a with a carbon numbers of 20 or more thing has the high body fat fall effect, it excels in the liver fat fall and the liver function improvement effect especially. Antitumor, an antiallergic effect, etc. based on omega3 fatty acid are expectable. Although a with a carbon number of less than 20 thing also has the body fat fall effect, since especially oxidation stability is good and is good, it is suitable for the use asked for these. [of flavor]

[0009]In the fats and oils used by this invention, triglyceride is preferably contained especially 0.1 to 50% 0.1 to 60% still more preferably 0.1 to 85% 0.1 to 95% in addition to the above-mentioned diglyceride and monoglyceride. Although there is no restriction in particular in the carbon number of the acyl group which constitutes this diglyceride and/or monoglyceride, 8-24, especially 16-22 are preferred. Not less than 55% of all the acyl groups of the quantity of an unsaturation acyl group are preferred, it is more desirable, and is desirable. [especially not less than 90% of] [not less than 70% of] It is preferred that the presentation of the acyl group which constitutes the triglyceride contained in the fats and oils used by this invention is the same as the acyl group presentation of the above-mentioned diglyceride and monoglyceride.

[0010]Hereafter, the especially desirable presentation of the fats and oils used for this invention is shown. Diglyceride and/or monoglyceride from a viewpoint of a viscosity down and oxidation stability. Not less than 15% and also that it is 25 to 65% especially have preferred omega3 system unsaturation acyl group content 20 to 70%, and 10 to 85% and also that it is 14 to 35% especially 12 to 45% have a preferred monoene acyl group content. A monoene acyl group is an acyl group which has one carbon-carbon double bond, and a hexadecamono- enoyl group, an octadecamono- enoyl group, an eicosadecamono- enoyl group, and a docosadecamono- enoyl group are preferred here.

[0011]The inside of the composition acyl group of diglyceride and monoglyceride, it is preferred that it is what contains omega6 system unsaturation acyl group further. here -- omega6 system unsaturation acyl group -- the position of a carbon-carbon unsaturated bond -- about omega -- from -- specifying -- about omega -- from -- it is an acyl group to which the first unsaturated bond is located in the 6th carbon atom, and what has a carbon-carbon unsaturated bond two or more is said. As for the number of carbon-carbon unsaturated bonds, 3-6 are preferred. If omega6 system unsaturation acyl group is contained, the manifestation of side effects, such as hemolysis produced by the antagonism when omega3 system unsaturation acyl group is taken in superfluously, and bleeding, can be controlled, and the manifestation of the physiology activity which omega3 system unsaturation acyl group has can be made easy. As an omega6 system unsaturation acyl group, a linoleyl group (cis, cis-9,12-octa DEKAJI enoyl group), gamma-linolenoyl group (a linoleyl group is preferred although an All cis-6,9,12-octadeca TORIE noil group, an arak Doyle group (All cis-5,8,11,14-eicosatetra enoyl group), etc. are mentioned.) From the point which makes the above-mentioned effect more remarkable, 0.5 to 75% of the content in the diglyceride of omega6 system unsaturation acyl group and/or a monoglyceride composition acyl group is desirable, is more desirable, and is desirable. [especially 1 to 25% of] [0.5 to 50% of]

[0012]In the fats and oils used for this invention, in order to raise oxidation stability, glyceride polymer may be contained. Glyceride polymer is that in which glyceride, such as triglyceride, diglyceride, and monoglyceride, polymerized between molecules (for example, chemicals and 21 living thing 179 page 1983), and there is no restriction in particular in the degree of polymerization of glyceride, the position of fatty acid ester, etc. From the improvement in the

oxidation stability of an oil and fat composition, and a viewpoint of flavor, 0.1 to 10% of the content in the fats and oils of glyceride polymer is desirable, is more desirable, and is desirable. [especially 0.3 to 4% of] [0.2 to 5% of] This glyceride polymer can adjust the quantity by adjusting reaction temperature conditions etc. suitably at the time of glyceride composition. Glyceride polymer is made in fixed quantity by the HPLC method which connected the gel filtration chromatography column. 5% or less of the free fatty acid content in fats and oils is desirable.

[0013]The triglyceride obtained by the ester exchange reaction etc. of the fats and oils and glycerin in which the fats and oils used for this invention contain omega3 system unsaturation acyl groups, such as fish oil and rapeseed oil, etc. as a composition acyl group, for example, It can manufacture by carrying out fractionation of diglyceride, the monoglyceride, etc. and subsequently mixing these suitably.

[0014]The fats and oils obtained in this way have the outstanding body fat combustion facilitatory effect, and show the physiology activity which was excellent in a body fat fall, a visceral fat fall, the neutral fat consumption in blood, the liver fat fall, the liver function improvement, etc., and its safety is high. Therefore, the body fat combustion improver of this invention can be used as medicine and foodstuffs. DG and MG which are used by this invention can be properly used by a use. In being a use asked for oil solubility when DG/(DG+MG) weight ratio is 0.5 or more, and less than 0.5, water solubility is suitable for **
*****.

[0015]When using this invention body fat combustion improver as medicine, as a dosage form, taking orally, ****, intravenous administration, etc. are mentioned, but the medicine for internal use is preferred. Specifically, liquids and solutions, such as solid preparations, such as powder medicine, a granule, a capsule, a pill, and a tablet, liquor, suspension, and an emulsion, etc. are mentioned. These orally administered drugs can add the excipient, the disintegrator, the binding material and lubricant which are generally used according to the gestalt of an orally administered drug besides the above-mentioned fats and oils, a surface-active agent, alcohols, water, a water soluble polymer, sweeteners, corrigent, an acidulant, etc., and can manufacture them in accordance with a conventional method. Generally 1 to 80% of especially the loadings to the medicinal preparation for internal use of the aforementioned fats and oils are desirable 0.1 to 100%. As for a dose, it is preferred to prescribe per [0.1-50g] day for the patient in 1 to several steps as said fats and oils.

[0016]Health food, functional food, a food for specified health use, etc. which exhibit a body fat combustion promotion function, for example, and plan health promotion as foodstuffs are mentioned. Specifically, confectionary, such as dressings, such as a tablet, a granule, French dressing, etc. which blended these fats and oils, mayonnaise, a cream kind, chocolate, and potato chips, a drink, etc. are mentioned. These foodstuffs can add the food material generally used according to the kind of foodstuffs besides the above-mentioned fats and oils, and can manufacture it in accordance with a conventional method. Although the loadings to the foodstuffs of the above-mentioned fats and oils change also with kinds of foodstuffs, generally they are especially desirable 0.1 to 100%. [1 to 80% of] It can use as food materials, such as oils for deep-fried dishes, such as tempura and a fry, or an oil for stir-fried dishes.

[0017]

[Example]Example of manufacture 1 fish-oil (made by Kao Corp.) 200 weight section and glycerin (made by Wako Pure Chemical Industries, Ltd.) 8 weight section were mixed, alkali catalyst (sodium METOKI side $\text{CH}_3 \text{ ONa}$) 0.6 weight section was mixed, and the ester exchange reaction was performed at 100 ** under decompression (0.133kPa) for 4 hours. Fractionation of the acquired resultant was carried out with silica gel column chromatography, subsequently triglyceride 56.1 weight section, diglyceride 42.9 weight section, and

monoglyceride 1.0 weight section were mixed, and the fats and oils 1 were manufactured.

[0018]Example 2DHA quantity content oil of manufacture ("DHA-45" by MARUHA CORP.) 200 weight section and glycerin 10 weight section were mixed, and an ester exchange reaction and fractionation of each ingredient were performed like the example 1 of manufacture. Subsequently, triglyceride 10.3 weight section, diglyceride 87.4 weight section, monoglyceride 1.9 weight section, and glyceride polymer 0.4 weight section were mixed, and the fats and oils 2 were manufactured.

[0019]Example of manufacture 3 linseed-oil (import ["scanning oil" and] origin: NIPPON SHOJI KAISHA, LTD.) 180 weight section and glycerin 12 weight section were mixed, and an ester exchange reaction and each ingredient fractionation were performed like the example 1 of manufacture. Subsequently, triglyceride 36.8 weight section, diglyceride 61.3 weight section, monoglyceride 0.5 weight section, free fatty acid 0.8 weight section, and glyceride polymer 0.6 weight section were mixed, and the fats and oils 3 were manufactured.

[0020]Example of manufacture 4 sesame-oil (product made from Ota Fats and oils) 180 weight section and glycerin 15 weight section were mixed, and an ester exchange reaction and fractionation of each ingredient were performed like the example 1 of manufacture. Subsequently, triglyceride 13.3 weight section, diglyceride 24.1 weight section, monoglyceride 58.3 weight section, free fatty acid 3.1 weight section, and glyceride polymer 1.2 weight section were mixed, and the fats and oils 4 were manufactured.

[0021]Example of manufacture 5 sesame-oil 140 weight section, olive-oil (made by Wako Pure Chemical Industries, Ltd.) 70 weight section, and glycerin 20 weight section were mixed, and an ester exchange reaction and fractionation of each ingredient were performed like the example 1 of manufacture. Subsequently, the monoglyceride 100% fraction was used as the fats and oils 5.

[0022]The comparative example 1, 2 rapeseed oil (made by the Nisshin Oil Mills, Ltd.), and fish oil were used as the fats and oils 6 (comparative example 1) and the fats and oils 7 (comparative example 2), respectively.

[0023]Triglyceride 96.2 weight section and diglyceride 3.8 weight section were mixed among each fractionation ingredient obtained in the example 2 of comparative example 3 manufacture, and the fats and oils 8 were manufactured.

[0024]Comparative example 4 rapeseed-oil 200 weight section and glycerin 10 weight section were mixed, and an ester exchange reaction and fractionation of each ingredient were performed like the example 1 of manufacture. Subsequently, triglyceride 21.7 weight section, diglyceride 76.5 weight section, monoglyceride 1.3 weight section, and free fatty acid 0.5 weight section were mixed, and the fats and oils 9 were manufactured.

[0025]Comparative example 5 olive-oil 200 weight section and glycerin 20 weight section were mixed, and an ester exchange reaction and fractionation of each ingredient were performed like the example 1 of manufacture. Subsequently, triglyceride 0.1 weight section, diglyceride 0.2 weight section, monoglyceride 99.2 weight section, and free fatty acid 0.5 weight section were mixed, and the fats and oils 10 were manufactured.

[0026]The main fatty acid composition of the diglyceride fraction of each fats-and-oils origin obtained by the examples 1-5 of manufacture and the comparative examples 3, 4, and 5 is shown in Table 1.

[0027]

[Table 1]

		実 施 例					比 較 例		
		1	2	3	4	5	3	4	5
ω 3	C18:3	0	0	60.6	63.1	41.3	0	10.3	0.4
	C20:5	15.2	6.7	0	0	0	6.7	0	0
	C22:6	8.4	46.3	0	0	0	41.3	0	0
モノ エン	C16:1	9.1	3.4	0	0	0.2	3.3	0	0.6
	C18:1	4.3	10.5	14.5	14.6	32.5	10.8	49.8	73.8
	C20:1	5.5	1.4	0	0.2	0.4	1.8	0	0
	C22:1	5.2	1.1	0	0.1	0	1.2	0	0
ω 6	C18:2	2.0	1.3	15.4	14.2	12.9	1.6	29.1	11.1
	C18:3	1.3	0.7	0	0	0	0.5	0	0
飽和	C14:0	5.8	2.2	0	0	0	2.3	0	0
	C16:0	16.9	11.3	6.6	5.4	6.9	12.5	8.1	9.8
	C18:0	3.5	2.7	2.9	1.5	2.2	3.5	2.7	3.2

メチル化後、ガスクロマトグラフィーにて測定

[0028] Each eight groups divided the Wistar system male rat of 110 weeks old of examples of an examination into each 11 groups, and a diet of the presentation given in Table 2 was given for two weeks. After making a rat abstain from food after that for 18 hours, in order to do biochemical study of blood, it collected blood from the abdominal aorta under anesthesia. After extracting liver and kidney-leaf-fat tissue simultaneously and measuring weight, the 0.5 g was crushed in 10mL chloroform methanol mixture (2:1) using the glass homogenizer, and suction filtration was carried out with glass fiber filter paper (GA100 47mm). Centrifugal separation after adding a physiological saline to filtrate and mixing it with it quietly (the slice of the 3000 rpmx 10 minutes was performed and carried out, the lower layer was taken out, and it hardened by drying under the nitrogen air current.) The obtained solid was remelted by the n-hexane of the adequate amount, and after adding anhydrous sodium sulfate and drying, again, under the nitrogen air current, the solvent was removed and it hardened by drying. It dissolved in 2-propanol of 5mL, and this solid was used as the test liquid of a lipid fixed quantity. The body fat percentage was measured with the body fat measuring device for mites (EM-SCAN SA-2 Central Scientific Commerce). Triglyceride of liver and kidney-leaf-fat tissue among blood is triglyceride. It measured in Test Wako (made by Wako Pure Chem). The total cholesterol of liver was measured in cholesterol E Test Wako (made by Wako Pure Chem). The GOT (glutamic oxaloacetic transaminase) activity in blood and GPT (glutamate pyruvate transaminase) activity, It measured by using aspartic acid and an alanine as a substrate after separating a blood serum, respectively by the Karmen method (J. Clin and Invest. 34 volume 131page 1955 year). The obtained result is shown in Table 3.

[0029]

[Table 2]

<食餌組成>

	コントロール	試験群 (%) 1~10
カゼイン	20	20
コーン油	10	10
油脂	0	3 ^{*1}
ミネラル混合	4	4
ビタミン混合	1	1
セルロース	4	4
塩化コリン	0.15	0.15
スターチ	60.85	57.85

* 1 : 油脂の種類は表 3 に記載。

[0030]

[Table 3]

結 果 (相対値) コントロール=100			体脂肪率	肝臓TG量	腎臓周囲 TG量	血中TG量	GOT	GPT	肝臓総コレス テロール量
コントロール	コーン油10%	比較例	100	100	100	100	100	100	100
1	コーン油+油脂6	比較例	123	153	109	128	156	144	110
2	コーン油+油脂7	比較例	99	95	101	100	93	90	103
3	コーン油+油脂8	比較例	97	87	100	98	88	86	99
4	コーン油+油脂9	比較例	101	118	104	115	127	116	105
5	コーン油+油脂10	比較例	102	110	104	95	130	121	108
6	コーン油+油脂1	実施例	88	68	95	81	75	72	90
7	コーン油+油脂2	実施例	78	31	84	66	61	56	85
8	コーン油+油脂3	実施例	85	60	94	75	70	64	92
9	コーン油+油脂4	実施例	83	55	93	75	68	59	93
10	コーン油+油脂5	実施例	86	63	89	80	72	67	95

[0031] By the diet ingestion group added 3%, the fats and oils which contain the diglyceride and/or monoglyceride which have omega3 unsaturation acyl group content more nearly fixed than the result of Table 3 to 10% of corn oil not less than 5%. It turns out that the outstanding body fat fall effect is acquired and the amount of circumference [kidney] triglyceride, the amount of liver triglyceride, liver total cholesterol, a serum transaminase value (GOT, GPT), and the amount of neutral fat in blood (TG) are reduced.

[0032] The fats and oils 2 with which the soft capsule was filled up without changing eating habits into the healthy male trinomial (A, B, C) of 232-37 years old of examples of an examination are made to take in for six weeks of 1g [per] day, and it is BMI. [Body Mass Index : Weight kg/ (height mx height m) A body fat percentage and waist size were measured. A result is shown in Table 4.

[0033]

[Table 4]

		0 W	6 W
A 37歳	BMI	25.1	24.8
	体脂肪率 (%)	25.3	24.5
	ウエスト (cm)	87.4	86.1
B 35歳	BMI	23.6	22.9
	体脂肪率 (%)	24.0	23.4
	ウエスト (cm)	85.5	84.7
C 32歳	BMI	24.2	23.5
	体脂肪率 (%)	24.8	24.1
	ウエスト (cm)	88.1	86.3

[0034] The result of Table 4 shows that a body fat percentage decreases and BMI and waist size fall in connection with it, without changing eating habits, if the body fat combustion improver of this invention is taken in.

[0035] Example 1 [0036]

[Table 5]

TECHNICAL FIELD

[Field of the Invention]This invention is excellent in the fall effect of body fat, or visceral fat and a liver fat, and relates to a safe body fat combustion improver.

PRIOR ART

[Description of the Prior Art]In recent years, research progresses about the relation between distribution of body fat and various adult diseases, and it is shown that especially accumulation of visceral fat, such as an intraperitoneal fat and a liver fat, has not only obesity but diabetes mellitus, hyperlipidemia, liver disease, hypertension, etc., and high correlation. Therefore, it is important to reduce body fat, when preventing and treating these diseases. [0003]In order to reduce the body fat concerned, movement and a meal are important, but difficulty is followed on management in many cases. On the other hand, although the trial for which it is going to reduce body fat with pharmacotherapy also occurs, the safety of the drug to be used poses a problem.

EFFECT OF THE INVENTION

[Effect of the Invention]Without changing eating habits, if the body fat combustion improver of this invention is used, reasonable, in a small quantity, body fat falls notably efficiently safely, and visceral fat and the neutral fat in blood decrease in number remarkably, and also a liver fat also falls, and a liver function is also improved.

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention]The purpose of this invention is to provide the safe and high body fat combustion improver of the body fat fall effect.

MEANS

[Means for Solving the Problem]When this invention persons inquired paying attention to a content of diglyceride in fats and oils, and monoglyceride, and omega3 system unsaturation acyl group content in those composition acyl groups, they found out that there was a body fat combustion promotion operation excellent in specific amount **** fats and oils about these. [0006]That is, this invention provides a body fat combustion improver which makes an active principle fats and oils which contain diglyceride and/or monoglyceride whose omega3 system unsaturation acyl group content in constituent fatty acids is 15 % of the weight or more 5% of the weight or more.

[0007]

[Embodiment of the Invention]The fats and oils used for the body fat combustion improver of this invention contain diglyceride and/or monoglyceride more than 5 % of the weight (% only shows hereafter), and are what is contained especially not less than 50% preferably not less than 40% still more preferably not less than 15% preferably. Body fat fall effect with diglyceride and/or a monoglyceride content sufficient at less than 5% cannot be acquired.

[0008]From a point of the body fat fall effect, not less than 15% of omega3 system

unsaturation acyl group content in the composition acyl group of the diglyceride and/or monoglyceride which are contained in the fats and oils used for this invention is required, and is not less than 25% especially preferably not less than 20% preferably. here -- the above-mentioned omega3 system unsaturation acyl group -- the position of a carbon-carbon unsaturated bond -- about omega -- from -- specifying -- about omega -- from -- it is an acyl group to which the first unsaturated bond is located in the 3rd carbon atom, and what has a carbon-carbon unsaturated bond two or more is said. What has a carbon-carbon unsaturated bond 3-6 is preferred. As a with a carbon numbers of 20 or more omega3 system unsaturation acyl group, an eicosapentaenoyl group, a docosapenta enoyl group, and a docosahexaenoyl group are preferred. As a with a carbon number of less than 20 omega3 system unsaturation acyl group, alpha-linoleyl group (all cis-9,12,15-octadeca TORIE noil group) is preferred. Although a with a carbon numbers of 20 or more thing has the high body fat fall effect, it excels in the liver fat fall and the liver function improvement effect especially. Antitumor, an antiallergic effect, etc. based on omega3 fatty acid are expectable. Although a with a carbon number of less than 20 thing also has the body fat fall effect, since especially oxidation stability is good and is good, it is suitable for the use asked for these. [of flavor]

[0009]In the fats and oils used by this invention, triglyceride is preferably contained especially 0.1 to 50% 0.1 to 60% still more preferably 0.1 to 85% 0.1 to 95% in addition to the above-mentioned diglyceride and monoglyceride. Although there is no restriction in particular in the carbon number of the acyl group which constitutes this diglyceride and/or monoglyceride, 8-24, especially 16-22 are preferred. Not less than 55% of all the acyl groups of the quantity of an unsaturation acyl group are preferred, it is more desirable, and is desirable. [especially not less than 90% of] [not less than 70% of] It is preferred that the presentation of the acyl group which constitutes the triglyceride contained in the fats and oils used by this invention is the same as the acyl group presentation of the above-mentioned diglyceride and monoglyceride.

[0010]Hereafter, the especially desirable presentation of the fats and oils used for this invention is shown. Diglyceride and/or monoglyceride from a viewpoint of a viscosity down and oxidation stability. Not less than 15% and also that it is 25 to 65% especially have preferred omega3 system unsaturation acyl group content 20 to 70%, and 10 to 85% and also that it is 14 to 35% especially 12 to 45% have a preferred monoene acyl group content. A monoene acyl group is an acyl group which has one carbon-carbon double bond, and a hexadecamono- enoyl group, an octadecamono- enoyl group, an eicosadecamono- enoyl group, and a docosadecamono- enoyl group are preferred here.

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desirable, is more desirable, and is desirable. [especially 1 to 25% of] [0.5 to 50% of]
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[0014]The fats and oils obtained in this way have the outstanding body fat combustion facilitatory effect, and show the physiology activity which was excellent in a body fat fall, a visceral fat fall, the neutral fat consumption in blood, the liver fat fall, the liver function improvement, etc., and its safety is high. Therefore, the body fat combustion improver of this invention can be used as medicine and foodstuffs. DG and MG which are used by this invention can be properly used by a use. In being a use asked for oil solubility when $DG/(DG+MG)$ weight ratio is 0.5 or more, and less than 0.5, water solubility is suitable for **
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[0015]When using this invention body fat combustion improver as medicine, as a dosage form, taking orally, ****, intravenous administration, etc. are mentioned, but the medicine for internal use is preferred. Specifically, liquids and solutions, such as solid preparations, such as powder medicine, a granule, a capsule, a pill, and a tablet, liquor, suspension, and an emulsion, etc. are mentioned. These orally administered drugs can add the excipient, the disintegrator, the binding material and lubricant which are generally used according to the gestalt of an orally administered drug besides the above-mentioned fats and oils, a surface-active agent, alcohols, water, a water soluble polymer, sweeteners, corrigent, an acidulant, etc., and can manufacture them in accordance with a conventional method. Generally 1 to 80% of especially the loadings to the medicinal preparation for internal use of the aforementioned fats and oils are desirable 0.1 to 100%. As for a dose, it is preferred to prescribe per [0.1-50g] day for the patient in 1 to several steps as said fats and oils.

[0016]Health food, functional food, a food for specified health use, etc. which exhibit a body fat combustion promotion function, for example, and plan health promotion as foodstuffs are mentioned. Specifically, confectionary, such as dressings, such as a tablet, a granule, French dressing, etc. which blended these fats and oils, mayonnaise, a cream kind, chocolate, and potato chips, a drink, etc. are mentioned. These foodstuffs can add the food material generally used according to the kind of foodstuffs besides the above-mentioned fats and oils, and can manufacture it in accordance with a conventional method. Although the loadings to the foodstuffs of the above-mentioned fats and oils change also with kinds of foodstuffs, generally they are especially desirable 0.1 to 100%. [1 to 80% of] It can use as food materials, such as oils for deep-fried dishes, such as tempura and a fry, or an oil for stir-fried dishes.